CROP TALK

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Twin Row Corn

by Greg Stewart, Corn Specialist, OMAFRA

Some ideas are just so appealing that it is hard to leave them alone, even when they have proven in the past to not work out as well as expected. The narrowing of corn rows seems to fit into this category.

Row Width Research

An extensive amount of research over the last two decades has investigated the yield improvements that could be gained by narrowing corn rows to something less than 30 inches. By the mid-1990's, research conducted across the northern Corn Belt and southern Ontario indicated significant yield advantages by narrowing corn rows from the traditional 30 - 38 inches (75–95 cm) down to 15 - 24 inches (38–60 cm). The research indicated that narrow row advantages would be greater in more northerly latitudes compared to the mid to southern portions of the Corn Belt. Ontario producers who converted to narrow row production systems at this time did so mostly by converting to 20 inch (50 cm) rows. They anticipated paying for planter and corn header conversions with an expected yield boost of 3 to 8 per cent.

Twin Row Research

Starting in 1995, twin row configurations were introduced into research projects. Twin rows are two rows usually 7 or 7.5 inches (17.5-19 cm) apart but still centered on 30 inches (75 cm). A summary of the results from University of Guelph plots, Soil and Crop Improvement Projects, independent producers and OMAFRA research over last two decades is presented in Table 1.

Cropline 1-888-449-0937

Ministry of Agriculture, Food and Rural Affairs
Ontario

Table 1. Influence of row width configuration and plant population on grain corn yields.

Location	Years	Plant Population (plants per acre)			
		28,000 – 32,000		35,000 – 36,000	
		Twin Rows	Single 30 inch rows	Twin Rows	Single 30 inch rows
Ridgetown	2	171	157	174	163
Duraham Region	3	143	142	153	146
Woodstock	3	-	-	154	154
Highgate	2	153	150	-	-
Tavistock	1	163	150	-	-
Weighted Average		**155**	**149**	**159**	**153**

Net Profitability?

In general, the yield advantages to twin row corn have been inconsistent across the various years and locations were trials have been conducted. On average, twin rows represent about a 3% increase in yield. One of the main advantages to twin row corn has been the cost savings from not having to make any modifications to the corn header or tractor tire spacing. Some of these savings are perhaps offset by additional wear on the corn header (as it is continually required to "pull" corn stalks) and by lower harvest speeds. Header losses have not been documented, but some producers have experienced corn cobs that get flung into the header and then bounce out.

When considering twin row corn, it appears that corn yield increases over traditional 30 inch rows may not always be adequate to justify equipment and management changes. Those operators most likely to enhance net profitability will be those who can combine the changes in corn planter configuration to mesh with soybean or edible bean planting systems and make one piece of equipment due for all crops.

There is also discussion about maximizing light interception with twin row corn. A few studies have looked at this carefully. In a good stand of corn at 30,000 plants per acre. 95-99 percent of all the light is intercepted from tassel emergence forward and there is no impact of row spacing. The twin row spacing might improve light interception in the few weeks leading up to full canopy cover, when the twin rows can show some advantage over the single rows. This usually calculates out to be a fairly minor impact and not far off what the average yield advantages have tended to be for twin rows.

If planting at high densities (35,000 to 40,000 plants/ac) is the key to yield improvements, then some have suggested that twin rows will contribute significantly to this yield boost when tested at these high densities. Once again, it is an appealing concept, but so far not well proven. I am certainly interested in the developments around plant populations, hybrids and planter equipment that easily accommodates twin row planting. However, as one who jumped on the Twin Row Band Wagon once, you will forgive me if I don't sprain an ankle trying to get back on.

Will Fusarium Be A Problem In The 2009 Spring Wheat Crop?

by Scott Banks, Emerging Crops Specialist, OMAFRA, Kemptville

That's a several $ million question! What weather is in store for June? Fusarium infection in wheat is very much dependant on the weather that occurs around the time that the wheat heads and begins to pollinate.

Critical Infection Period

For fusarium infection to occur in the wheat head, the weather conditions 7 days prior to the wheat heading and for 5 to 10 days after the wheat heads have emerged are critical. Temperatures between 10° and 30° C and wet weather are conducive to fusarium infection. If the temperatures are above 32°C and it is hot and dry, the risk of fusarium infection is very low.

In 2009, a lot of spring wheat was planted 1 to 2 weeks earlier than most years. The crop will also be heading earlier than normal, depending on the planting date and the temperatures in June. In most parts of the province, spring wheat normally heads the last week of June or the first week of July. Start monitoring earlier planted fields for the risk of fusarium infection in mid-June..

Site-Specific DONcast

Deoxynivalenol (DON) is the toxin produced by the fusarium mould. To help predict the risk potential of fusarium and DON (in ppm), maps are available at www.weatherinnovations.com/DONcast.cfm. Site-Specific DONcast is a much more precise tool than the regional maps previously available. It is very important to monitor your own fields to identify the time of head emergence (Zadoks 59) in order to accurately run the Site-Specific DONcast calculator.

Fungicide Application

Proline® and *Folicur®* fungicides are currently the only products registered for fusarium suppression in spring wheat. To get the greatest suppression of fusarium, these products must be applied:

1. at the correct growth stage of the wheat,
2. With the correct nozzles to get proper wheat head coverage.

Growth Stage

The product should be applied when at least 75% of the wheat heads on the main stem are fully emerged (Zadok 59) to when 50% of the heads on the main stem are in the flower stage. Refer to Figure 1 - Representative Zadok Stages and Figure 2 – Flowering Stage.

Figure 1 - Representative Zadok Stages

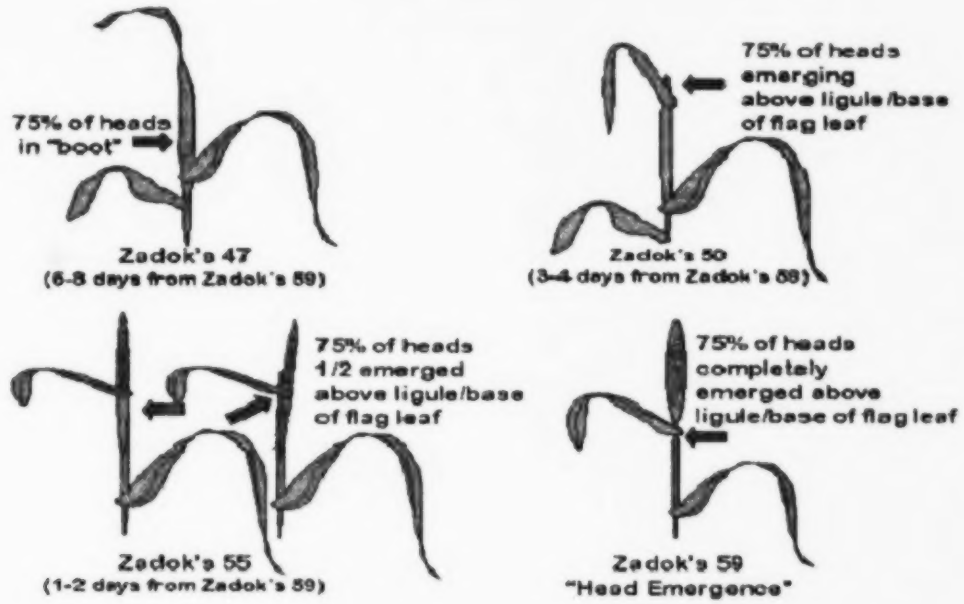
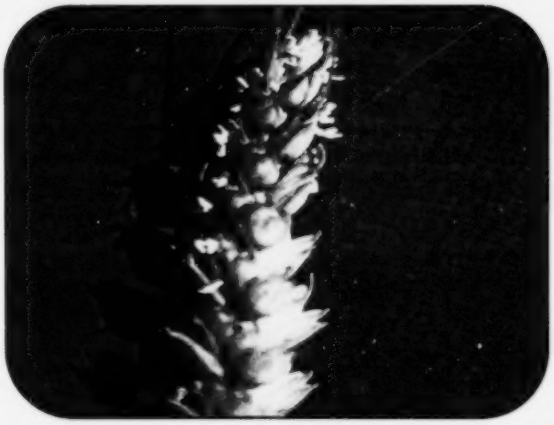

75% of heads in "boot"
Zadok's 47
(6-8 days from Zadok's 59)
75% of heads emerging above ligule/base of flag leaf
Zadok's 50
(3-4 days from Zadok's 59)
75% of heads 1/2 emerged above ligule/base of flag leaf
Zadok's 55
(1-2 days from Zadok's 59)
75% of heads completely emerged above ligule/base of flag leaf
Zadok's 59
"Head Emergence"

Figure 2 – Flowering Stage



Nozzles

Research conducted by Helmut Spiecer and Dr. Dave Hooker at the Ridgetown Campus – University of Guelph concluded that the best nozzles to spray the wheat heads horizontally from the front and the back were the Alternating Turbo FloodJet nozzles (Photo 1). The nozzles should be 30 cm (12 in) above canopy and 15 degrees from horizontal (Photo 1).

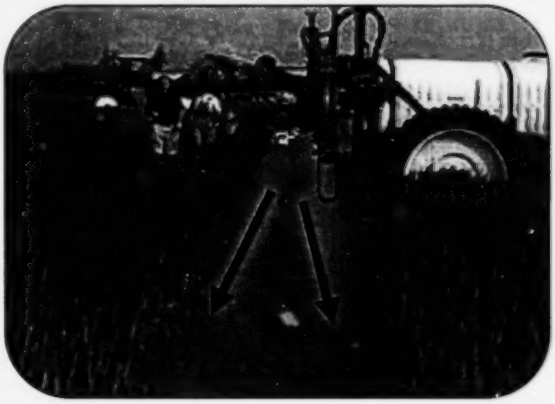
The Twin Jet nozzles (Photo 2) give less coverage of fungicide product on the wheat head than the Turbo FloodJet, therefore significantly reducing the effectiveness of the product.

Travel Speed

All nozzle configurations were tested at 10 and 20 km/h (6 and 12 mph). Results showed that travel speed was not as limiting a factor as had once been thought. Nozzles that performed well at low spraying speeds also performed well at high spraying speeds. Nozzles or nozzle configurations that gave good head coverage were consistent across both spraying speeds.

Photo 1 – Alternating Turbo Flood Jet nozzles

Photo 2 – Twin Jet nozzles



Yield

On-farm trials with Folicur in spring wheat have shown an average of about 2.5 bushel per acre yield increase. A limited number of on-farm trials with Proline over the past two years have shown an average yield increase of 6 bushels per acre. Yield response will vary depending on the disease pressure at application time. Sprayer trampling when applying a fungicide is equivalent to about 1 - 1.5 bushel per acre.

Bottom Line

Proline® and *Folicur®* fungicides are applied at the correct growth stage of the wheat and with the correct nozzles to get proper wheat head coverage and greatest product suppression of fusarium. Anything less will dramatically reduce the amount of suppression of fusarium in spring wheat.

Harvesting the Cereal Nurse Crop Early

by Gilles Quesnel, Field Crop IPM Program Lead, OMAFRA, Kemptville

Alfalfa winterkill this spring was worse than anticipated across the province, forcing many to reseed significant acreage. Where a cereal nurse crop is used to establish a new alfalfa seeding, the nurse crop will provide some early season weed control and additional forage when harvested as silage. However, the nurse crop has the potential to provide severe competition to the underseeded alfalfa crop resulting in reduced establishment. A nurse crop can also reduce the feed quality of the first-cut if harvested late.

Harvest As Silage Or Grain?

Whether the nurse crop is harvested as silage at the late-boot to early-heading stages, or as grain in August will largely be determined by the relative need for feed or straw. Given the high soil moisture levels this spring,

most new alfalfa seedings are well established. However, lush cereal growth is likely to provide intense competition to the new seedings. If forage feed is needed, removing the nurse crop early as silage may be the best option. Removing the cereal competition early in the summer will also allow the alfalfa to establish quickly, giving the opportunity of a second-cut by summer's end.

Harvest Early For Forage Quality

From a feed nutrient value stand point when harvesting the crop as silage, best results are obtained when the cereal crop is harvested early. The ideal time to cut the cereal nurse crop is at the boot (just before heading) to early-heading stage. This is usually about 50 days after planting. It is often tempting to delay the harvest of the nurse crop, given that dry matter yield of the cereal increases by about 50% from the boot stage to the milk stage. However, New Liskeard Campus, University of Guelph research demonstrates that as cereal maturity progresses from the boot stage to the milk stage, the in-vitro digestibility drops from approximately 80% to 60%, crude protein drops from above 17% to 10%, while Acid Detergent Fibre (ADF) increases by about 20 percentage points. Once the cereal crop reaches the milk stage and beyond, it becomes high in fibre and low in digestibility, dropping significantly in feed value. Additionally, a cereal nurse crop at the late-milk stage or dough stage is difficult to ensile, since the plant moisture content drops too low for proper fermentation.

Cereal grains mature rapidly around the heading stage. Therefore, harvest of a cereal nurse crop as silage should begin slightly ahead of the harvest maturity stage desired.

Johne's Disease Is An Increasing Problem – Should Manure Be Applied To Forages?

by Christine Brown, Nutrient Management Lead, OMAFRA, Woodstock

Application of manure from animals infected with pathogens is a potential method for spreading infection.

Johne's (yo-nees) Disease is a persistent and debilitating bacterial disease that affects the intestines of ruminant animals, including cattle, goats and sheep. The disease is especially problematic in dairy herds, where many cattle can be infected, but only a small percentage of animals (<5%) show the clinical signs of chronic diarrhea and extreme weight loss. These cows also experience decreased milk production. Infected cattle, even those not showing sickness, may shed the bacteria in the manure. Johne's is most often introduced onto farms by the purchase of infected animals..

Animal Susceptibility To Infection

Johne's Disease is caused by *Mycobacterium avium paratuberculosis* (MAP). Calves, especially those under 6 months of age, are most susceptible to infection. Animals under stress are also more susceptible than healthy cattle. The common routes of infection are via ingestion of colostrum or milk contaminated by infected cows. For this reason, Johne's prevention strategies revolve around calf management and herd testing. (Refer to *Healthy Cows for a Healthy Industry"* at www.johnes.org.) Infection can also occur when feed contaminated with manure containing the MAP pathogen is eaten, particularly by youngstock. . For this reason, manure application to forages is a potential source of infection.

Survival of the Disease Bacteria In the Environment

MAP can survive in manure and water for up to one year and on pastures and hay fields for up to six months. Exposure to sunlight, drying, high pH, liming, and low iron, as well as the processes of fermentation and composting appear to reduce the survival of MAP. Factors that reduce the survival of the bacteria can also help in better managing manure applied to forages to prevent spread of MAP.

Management Strategies

The following Management Strategies are suggested for manure management in herds where Johne's Disease has been identified:

- Manure should not be applied to forages in calf or heifer pastures during the grazing season.
- Topdress the liquid manure as soon as possible following harvest. This allows the sunlight and desiccation to kill the MAP bacteria.
- Apply manure to fields that will be ensiled or harvested for haylage. Proper fermentation appears to kill the bacteria. Use good ensiling techniques, including proper dry matter content, use of silage inoculant if required, rapid filling, adequate packing, and covering as soon as the storage is filled.
- Avoid application of manure to fields that will be harvested for dry hay, especially calf and heifer hay. Where manure is applied, it should be done before any re-growth occurs. A 30 day interval between manure application and harvest should reduce MAP bacteria numbers. However year-to-year variations in environmental conditions (weather) cannot guarantee complete elimination.
- When choosing a field for manure application, those with a high pH or those that have recently had lime applied are preferred.

Management strategies that help to control Johne's Disease will also help to control other common pathogens such as Salmonella, *E.coli*, Cryptosporidum

and several other viral diseases that affect young calves and cattle.

Field Situation	Animal Class	Should Manure be Applied?
Pastures	Calves and young heifers	No
Pastures	Cows	Avoid
Dry hay	Calves and young heifers	Avoid
Legume and grass silage	All	OK
Summer annual silage	All	OK
Summer annual greenchop	All	Avoid
E. D. Thomas – William H. Miner Ag Research Institute		

Checklist for Being an Organic Farmer

by Hugh Martin, Organic Crop Production Program Lead, OMAFRA

The following are some of the basic requirements for organic farms:

- Only use inputs that are listed on the "Permitted Substances List" of the Canadian Organic Standard on the field during the past 36 months (prior to harvest) of the organic crop;
- Do not use genetically modified inputs (seed, inoculants, etc.);
- Must have a farm plan detailing inputs and practices for each field and livestock group;
- Maintains excellent field records and daily journals to permit traceability of the farm products and on-farm practices;
- Does not grow the same crop as organic and non-organic, unless it is visually distinguishable;
- Maintains an identification system for distinguishing organic and non-organic crops, livestock and products during production, processing, handling and storage;
- Soil fertility and biological activity of the soil is maintained by using crop rotations, incorporating plant and animal matter (cover crops) and animal manure as appropriate according to the farm plan;
- Manure management practices should minimize soil and water degradation;
- Crop pest management enhances crop growth using preventative methods and uses a combination of cultural and mechanical methods, and botanical and biological measures when necessary;
- The operator shall establish and maintain preventative health care measures;
- Livestock shall be managed responsibly with care and respect. Stress shall be minimized in all handling practices;
- Organic livestock operations shall establish and maintain animal living-conditions that accommodate the health and natural behaviour of all animals;
- Organic livestock shall be fed organic feeds and have access to the outdoors whenever weather conditions permit. Herbivores must have access to pasture during the grazing season (minimum 30% of total forage intake);
- An organic system must maintain the organic qualities of the product from production, preparation, storage, handling and labelling, to point of sale;
- Processing methods can be mechanical, physical or biological (e.g. fermentation and smoking) and minimizes the use of non-agricultural ingredients, food additives and processing aids;
- During the transition to certified organic, the operator should apply for certification to an accredited organic certification body at least 15 months prior to harvest of the organic products;
- Protect the environment, minimize soil erosion and soil degradation, and maintain water and air quality as much as possible;
- Encourage biological diversity within the farm system; and
- Recycle materials and use renewable resources whenever possible.

This is a very brief synopsis of over 60 pages of the organic standards and on using organic farm practices. For more details, refer to www.ontario.ca/organic.

Aphanomyces in Alfalfa Survey - Request for Soil Samples!

by Albert Tenuta, Field Crop Plant Pathologist & Joel Bagg, Forage Specialist, OMAFRA

Aphanomyces root rot is considered a major alfalfa disease. There are many alfalfa fields in Ontario that show visual symptoms similar to aphanomyces, although this has not been confirmed by laboratory analysis. Aphanomyces can be managed by the use of available Race 1 and Race 2 resistant alfalfa varieties.

Aphanomyces distribution and its impact in Ontario is not well understood. A limited 1992 survey in southwestern Ontario indicated infection in 6 (in 5 different counties.) of 83 alfalfa fields surveyed (7%). Based on the rapid spread of Aphanomyces in neighbouring States in the past decade or so, it seems very possible that has also become a significant alfalfa disease in Ontario. For this reason, OMAFRA, supported by the Ontario Forage Council, is conducting a new survey to update the geographic and race distribution of Aphanomyces in the province.

We Need Your Help!

If you have or know of any fields with potential problems, contact us so that we can sample these fields.

What To Look For?

New Seedings

Seedlings appear stunted, yellow and have a under developed root system with very few lateral roots. The roots often are grey and watersoaked, and turn brown as the disease develops. The cotyledons and first true leaves can be yellow in colour.

Established Stands

General symptoms include poor root development with the absence of the fine, fibrous roots and root hairs, along with reduced nodulation. Affected plants appear short, stunted and yellow in characteristic oval-shaped patches. There appears to be a definite separation between affected patches and normal plants. Because of the stunted root system, infected alfalfa stands do very poorly during extended dry weather, when these patches are particularly noticeable. Plants are slow to break winter dormancy, slower to develop in the spring, lack vigour and regrowth following harvest is delayed. (Photos 1 & 2.)

How to Sample

Soil samples are to be collected from the upper 6 inches of soil and from 25 locations. Take a shovel or cup of soil from these locations throughout the field. Since a bio-assay is needed to test for Aphanomyces a large volume of soil is necessary to grow the plants. Therefore, 4 to 8 liters of soil (1-2 gallons) is required. The collected soils must be kept in the cold or frozen if possible until delievered.

Who to Contact

Joel Bagg 705-324-5856 joel.bagg@ontario.ca
Albert Tenuta 519-674-1617 albert.tenuta@ontario.ca

Photo 1 – Aphanomyces Appearance In An Established Stand
(courtesy Of Dr Dan Undersander, University of Wisconsin)

Photo 2 – Aphanomyces Infected Plants (Bottom) Compared To Normal Plants (Top)
(courtesy Of Dr Dan Undersander, University of Wisconsin)

Crop Residues – Your Future Cash Crop?

by Ian McDonald, Applied Research Coordinator, Field Crops, OMAFRA

There is lots of talk about new opportunities in the biomass, fossil fuel replacement "Green Economy". However, there needs to be some consideration as to where all the biomass is going to come from to meet the diverse needs.

Some big players are lining up to use different forms of biomass as an energy source in an effort to reduce costs, secure supply, increase efficiency and reduce their environmental footprint. LaFarge at Bath, Ontario, is testing biomass as an energy source for cement production. Ontario Power Generation (OPG) is exploring opportunities to use biomass to fire electricity generation as a coal replacement strategy. OPG has put out a call for 2 million tonnes of biomass per year. Greenfield Ethanol is trying to overcome the technical hurdles of making ethanol from cellulosic materials. The auto industry is working closely with the University of Guelph and others to explore opportunities to make car parts out of bio-based feedstock. There are also a multitude of smaller players exploring opportunities for utilizing biomass.

In the long term, the agricultural feedstock to supply these markets is likely to come from perennial grasses, such as switchgrass, miscanthus, big blue stem, reed canarygrass and prairie cord grass. Annuals, such as hemp, pearl millet, sorghum and others are being evaluated. In the near future, the feedstock is likely to be crop residues, such as corn stover, soybean and cereal straw and forages. There are ready supplies of these over significant acreages across the province.

Crop Residue Volumes

How much of these crop residues are out there? How much can practically be removed? How much should sustainably be removed? The question of gross volume is relatively simple to calculate. Table 1.has been calculated from 2008 Ontario crop yield statistics, harvest index and moisture values. Considering all the Ontario acreages of corn, soybean, wheat and forages, there is approximately 15 million tonnes of material available each year. This assumes that all of the above ground crop residue is available, with the exception of soybean leaves that drop prior to harvest. It also assumes the total use of forages, which is not going to happen based on the ruminant livestock industry in Ontario.

How Much Can We Practically Harvest?

A more difficult question to answer is "how much of the available biomass can be practically harvested?" (Table 2) For cereal residue, we have a defined harvest system. The combine leaves the crop residue in a compact windrow that is easily harvested with a baler or forage harvester. There are some losses such as awns, heads and other plant parts that might fall through the windrow. Soybeans are similar to cereals, in that we put the whole plant (minus the leaves) through the combine and could leave a windrow of straw behind the combine for later harvest. Combine modifications are being investigated that would collect the residue directly from the combine (Figure 1).

Table 1. Gross Volumes of Crop Residues Available in from Ontario Field Crops (dry tonnes)

Based on 2008 Harvest Numbers	Corn	Soybean	Wheat	Forages
Area (million ac)	1.73	2.10	1.20	2.60
Yield (*bu/ac or **mt/ac)	156*	43*	80*	2.5**
Dry Matter (mt/ac)	3.96	1.17	2.18	2.50
Harvest Moisture (%)	15.5	14.0	14.5	15-18
Harvest Index (%)	52	50	50	95
Residue Yield (0% mt/ac)	3.10	1.01	1.86	1.98
Total Residue (million mt)	5.37	2.12	2.24	5.16

Table 2. Estimation of Harvestable Portions of Field Crop Residues.

Based on 2008 Harvest Numbers	Corn	Soy-bean	Wheat	For-ages
Residue Yield (0% mt/ac)	3.10	1.01	1.86	1.98
Total Residue (million mt	5.37	2.12	2.24	5.16
Practically Avail-able (%)	50	40	66	5-10
Sustainably Available (mt)	?	?	?	?

Figure 1. Modified Combine for Crop Residue Capture

Corn is more problematic because much of the foliage never goes through the combine. Only the ears are popped off the stalks and enter the combine. The remaining residue is pulled down through the corn header and left in the field. It is run over by the combine and grain buggy, and much of it is not dislodged from the ground. In this case there would be a need for mowing and windrowing the field prior to baling or chopping the corn stover. This would take time and has significant costs. We are often up against impending winter weather and lack of drying conditions to harvest high quality corn stover. It is unlikely that we would normally have the luxury of slowing down the grain harvest to also accommodate stover removal. However, there may be custom capacity in big square balers or forage harvesters to take some of this role. Many options need to be considered and explored.

On-farm storage of the bio-mass and associated costs will also need to be considered. The end users are not going to have the capacity to receive it all at harvest

How Much Can We Harvest and Still Be Sustainable?

What is the level of crop residue removal that can be accommodated without negative sustainability impacts? Traditionally, cereal straw has been harvested while soybean and corn residues have been left in the field. This residue contributes to nutrient return and cycling, soil organic matter building, erosion control, water infiltration, soil health and a multitude of other positive impacts. We do not have research experience to determine how much removal of soybean and corn residue is sustainable, or how long it would take for impacts to be felt. Research needs to be done that considers changes in the production system that could offset negative impacts of residue removal. For example, if no-till systems were adopted for all the land supplying biomass, would it stabilize soil properties and increase productivity as a result of better crop emergence and growth in a residue free environment? Many fundamental questions need to be researched.

There appears to be potential to utilize some of the vast supplies of crop residues as bio-mass. Practical considerations, such as timing, logistics, nutrient replacement, harvest technology, potentially negative soil impacts, and many other questions need to be addressed. Let's get to work.

Soil Erosion – This Year More Than Most

by Ian McDonald, Applied Research Coordinator & Adam Hayes, Soil Management Specialist, Field Crops, OMAFRA

Did you notice all the soil erosion this spring? It is concerning, and it makes one wonder if we are forgetting all the important lessons we have learned. It did not seem to matter whether it was no-till or tilled ground, erosion was definitely increased this spring photos1 and 2).

Why Did It Happen?

The conditions in late winter and early spring set the stage for increased soil erosion potential. Even growers that had soil erosion measures in place experienced erosion they hadn't seen for years. There were several thaws where the top few centimetres of soil had thawed, followed by significant rainfall events that carried saturated soil away. Two significant rain events in mid-spring dropped 37 mm (Apr. 25) and 28 mm (Apr. 30) in the London area. Rivers were full of brown water. Rills and gullies were everywhere in newly worked fields and some that were planted. Rain events of these severities can be more than no-till and residue cover can protect, where there is significant overland water flow. Many soils were overly wet this spring, increasing the overland flow and making soils more prone to erosion. Wherever there was some slope, significant water collected, result-

resulting in the movement of soil and formation of rills.

Photo 1- Erosion In No-till Planted Winter Wheat, Early May 2009

Lessons Learned

We have to continue to be diligent in managing our soil resource. Although we can say that these heavy down pours are infrequent, they do happen. It doesn't take many of them to lead to significant soil loss. Climate change researchers predict more severe rainfall events and possibly less snow cover, so, we may see this scenario more often. Soil loss not only reduces crop productivity, but also impacts the environment. Contamination of surface water sources can result when fertilized, planted and sprayed fields suffer massive rill and overland water flow. These events can quickly raise the ire of the public and cause problems.

Keeping the Soil in Place

Landowners, who have worked hard to put soil conservation measures in place, need to ensure the maintenance is kept up. Grass waterways should not have been reduced in width over time. Consider additional measures to address new problems. For example, even winter wheat fields planted no-till into soybean stubble were suffering erosion this year. A living cover crop has the ability to buffer against erosion because the active root system and ground cover holds soil and reduces the punishing aspect of downpours. However, excessive concentrated flows are more than this can handle, so some method of diverting the water may be necessary.

Photo 2– No-till Soybean Stubble Ground, Mid-April 2009

For landowners who have not implemented a full soil conservation program, there are also management options that can be implemented to reduce erosion potential. These options include grassed waterways, buffer strips, drop inlets, rock chutes, drainage, water and sediment control basins, crop rotation, reduced tillage and cover crops. Producers need to evaluate the topography of their fields. There are many fields that should have grassed waterways or water and sediment control basins, but are bare soil from fence row to fence row. Aggressive fall tillage that occurred last year likely contributed to the problem. Very few fields are planted to cover crops. Many soil conservation measures do not require much extra effort or expense. Grants are available through the Environmental Farm Plan and Conservation Authorities to help cover the costs.

Soil loss is a very visible cost that we don't assign enough value to. Our soil resource is critical to our long term productivity and wealth as a province and a nation. If we don't take care of it, increasing public interest in environmental issues could bring unwanted attention or restrictions. More effort has to be taken by producers to save this valuable resource for the prosperity of themselves and the public.

Ontario Forage Expo
Wednesday July 15,2009
Dunlea Farms, Fritz Trauttmansdorff
Jerseyville, Ontario
Come and enjoy haying equipment demonstrations, tradeshow exhibits and speakers
Hosted by Wentworth & Brant SCIA's and the Ontario Forage Council 1-877-892-8663